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Developing music listening skills using active learning methods in secondary education

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Abstract

The reformed upper secondary school curriculum in Estonia states that pupils need to be supported to take a more active role when developing knowledge and competencies in music. The purpose of the current study was to test an active learning method designed to support music listening skills. The sample (n = 55) consisted of 11th grade pupils in one public school in Estonia. Students evaluated ten musical examples from the classical period to complete the pre- and post-test. The results indicated positive changes in students' assessments of classical music listening when activating learning activities were used in the learning process.

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1. Introduction

The reformed upper secondary school curriculum in Estonia (Estonian Upper Secondary Schools Act, 2010) states that pupils need to be supported to take a more active role when developing their knowledge and competencies in music. More specifically, “the study of music in upper secondary schools seeks students’ ability to critically listen, analyse, interpret and discuss music” (Estonian Upper Secondary Schools Act, 2010, 4). The description of the subject states among other that “listening to music of different eras shapes music listeners and concert visitors’ awareness and critical thinking. Listening to music introduces the listener with means of expression, styles, composers, and interpreters of different

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eras and invites for discussion” (ibid). The learning outcome of the study of music states that “the graduate of upper secondary school expresses one’s opinion about the music and compares, analyses, and argues on the basis of his/her knowledge and music terminology” (Estonian Upper Secondary Schools Act, 2010, 5). Today we know that it is not easy to gain such learning outcomes. Results of recent studies in Estonia (e.g. Liimets & Raudva, 2006) and international context (e.g. Georgii-Hemming & Westvall, 2010) have shown that pupils tend to have a negative attitude towards music history and show a lack of tolerance towards classical music when developing their musical preferences.

In this article we argue that the encountered difficulties with music teaching might be associated with passive, teacher or subject dominated pedagogical methods. Considering the objectives of the reformed general education curriculum that emphasises the role of a student, we propose that active learning methods should be implemented more readily in music lessons in order to facilitate students’ involvement and provide ownership for the learning process and its outcomes in Estonia. The scope of the current study is developing music listening skills and below we will present research findings that have illustrated how active learning methods can support students in developing music listening skills and facilitate forming a more positive attitudes towards classical music.

1.1. Active learning for developing music listening skills

This article draws on constructivist philosophies for learning which emphasise student-centred environments in education and the active involvement of students in learning. According to Terwel (1999) constructivism in education can be seen as a branch of the cognitive sciences; although there is, nevertheless, a direct link to the pragmatism of Charles S. Peirce, William James, and John Dewey. Dewey (1933) tried to support freedom-based activeness of young people and distinguished between four basic needs of growing individuals: being social, being active, being creative, and being inquiring. How to satisfy these needs at school became the fundamental quest of active learning.

The use of active learning methods is an inseparable part of contemporary educational practice, including the study of music (see e.g. Brown, 2008; Scott, 2010; 2011). In active learning “students adopt an analytic approach to questioning and problem solving. Through these processes, students extend their current understanding and emerge as independent musicians, actively engaged in their work as singers, players, composers, improvisers, and listeners. This approach is contrasted with student involvement in hands-on activities in which the focus is on the actions needed to fulfil a given task and limited awareness is devoted to the thinking required to complete the work (Scott, 2011, p. 191)”. This also applies that students should be encouraged to reflect on their learning in order to become conscious of and thoughtful about their actions (see e.g. Leijen, Lam, Wildschut, & Simons, 2009; Leijen, 2009; Leijen, Valtna, Leijen, & Pedaste, 2012).

The use of active learning methods has proven to be efficient also in teaching the history of music. As a result of a survey that was conducted in Estonia, Renter-Reintamm (2009) found that the use of active learning makes the teaching of the history of music more effective. She found that $\frac{3}{4}$ of the students who participated in the research had an increased interest in the history of music after completing the tasks. Renter-Reintamm also concluded on the basis of students’ explanations that using methods of active learning in parallel with traditional lectures increases students’ interest in and attitude towards the subject. Ots (2004) conducted an action research in Estonia, the aim of which was to observe the importance of music listening in the socialization process of students. She found that in listening to music it is most important to create an exploratory situation. While evaluating the results of different methods (exploratory-analytical method, discussion method, project method) she found that students assess music in connection with lifestyle, context, and environment. Ots suggests that teachers can bring students closer to a live musical environment by providing them with versatile musical experiences and expanding

their choice of music, and thereby enabling them to socially identify themselves (Ots, 2004). A research conducted in Finland by Kolehmainen (2004) focused on the effect of active learning methods on the attitude of classical music among basic school pupils and university students who study to become class teachers. The results of the research showed that the active study period of music listening fostered the forming of positive attitudes towards music.

The abovementioned results are also in accord with the music psychologists' findings showing that young people prefer in music listening aspects that are the basis of emotional impulses: melody, sonance, and rhythm (Pehk, 2001) and that the listener only reacts to sensory quality and emotional impulse while listening to music (Cook 2005). In accordance with the above, the American music theorist Cook (2005) introduces "listening skills mafia", a learning method of guided listening taught at schools and universities in the U.S.A. The aim of the method is to suggest to a listener certain types of status whereas it does not solely mean the defining of status while listening to music, but doing it consciously. Similarly, active listening has also been investigated in a research conducted by Johnson (2003) in the U.S.A. The aim of Johnson's study was to determine the effect of critical thinking instruction on music listening skills of fifth-grade pupils as measured by written responses to music listening. The results showed that the critical thinking instruction had a significant and positive effect on participants' music listening responses. In a similar context, Smialek & Boburka (2006) investigated the effectiveness of cooperative listening exercises in developing critical music-listening skills in non-music majors. Their results showed that the consistent use of cooperative-listening exercises proved to be more effective in developing subjects' critical listening skills than either lecture-demonstration or occasional group work.

These findings suggest that applying the methods of active learning in music education is effective owing that these methods improve students' attitude towards classical music and related learning activities. In line with the above, the main objective of this study was to find out whether active learning methods support students in developing music listening skills and facilitate forming a more positive attitudes towards classical music. Subsequently, the preconditioned objective of the study was to develop a learning method that would support developing music listening skills. In order to meet these objectives a small-scale empirical study using pre- and post-test design was carried out.

2. Methods

2.1. Sample

The sample ($n = 55$) consisted of 11th grade students in a public school in Estonia. 8 students (15%) studied a musical instrument in a music school (part of hobby education). 39 students (71%) had been involved in music education activities at the school or outside school, e.g. they participated in school choirs, music hobby classes. Research about hobby education in Estonia reveal that approximately 41% of young people aged 15-19 are involved in singing and 24% in playing an instrument (Noortemonitor, 2009). Hence, the present sample involves more participants with additional music education than usual.

2.2. Learning process

During the period between the pre- and post-test, the author of the article, also the music teacher of this study, used diverse methods and materials in the learning process in order to introduce the life and work of the most famous composers of the classical era: Franz Joseph Haydn, Wolfgang Amadeus Mozart, and Ludwig van Beethoven (see Table 1). Learning activities were based on the following principles:

- active learning is promoted, e.g. students are encouraged to carry out form analysis and discuss the results with peers;

- variety of materials are used to introduce classical music;
- a narrative between the author and the listened musical piece is created;
- students' emotional involvement is promoted;
- students are encouraged to find a new and interesting angle while analysing a familiar music piece;
- students are guided to provide reasons for their evaluations, thereby expanding their music vocabulary.

In addition to the customary available means of teaching and learning, e.g. textbook (Siitan, 1998) and workbook (Kaarlep & Skuin, 2000), and CDs, the selection of study materials also include different additional materials (e.g. Pogue & Scott, 2005) that provide further background information about the composers and their masterpieces. The present methodology also included different films (Joseph Haydn – the unrecognized Genius, 2009; Mozart in Salzburg, 2009; Amadeus, 1984; Immortal Beloved, 1994) and other video materials (materials from YouTube), with which it is possible to visualise the composers and their masterpieces. In addition to workbook exercises and worksheets, so-called listening worksheets were used to describe and interpret the construction of the musical piece.

Table 1. Description of learning activities

Topic	Nr of hours	Learning activities
Music examples	1	Pre-test: anonymous familiarisation with music examples and evaluating the music examples.
Franz Joseph Haydn	2	Expanding upon the life and work of the composer on individual basis with the help of a textbook and workbook; watching the movie <i>Joseph Haydn – the unrecognized Genius</i> (2009) as a group work; discussing the composer and his work with the class; familiarisation with music examples with the help of a workbook.
Wolfgang Amadeus Mozart	7	Expanding upon the life and work of the composer as a group work with the help of a workbook; watching movies <i>Mozart in Salzburg</i> (2009) and <i>Amadeus</i> (1984) as a group work; discussing the composer and his work with the class; familiarisation with music examples with the help of a workbook.
Ludwig van Beethoven	3	Expanding upon the life and work of the composer as a group work with the help of a textbook and workbook; Partial watching of the movie <i>Immortal Beloved</i> (1994) as a group work; discussing the composer and his work with the class; familiarisation with music examples with the help of a workbook.
Music examples	1	Post-test: listening to the music examples and evaluating the music examples.

A new active learning method, presented as a pre- and post-test for a data collection method in the present study, was developed in order to listen to music. The methodology assumed an individual approach in order to analyse the acquired material and present reasoned arguments. The implementation of the method included students' interaction process, during which the whole group could share their thoughts and views, compare others' thoughts with their own, and acquire new knowledge and skills during the discussion.

2.3. The method and procedure of data collection

In order to find out the change in the provided evaluations of music listening after the learning process, pre- and post-tests were compiled. Students were asked to give evaluations – like, average, not like – on the basis of an ordinal scale to 10 different classical music compositions. The musical pieces were

selected among the listening examples of the classical era of music history (see next section 2.4.). In addition to giving evaluations, the students also had to reason their opinion by answering the question, why. The order of the musical pieces was different in the pre- and post-tests. The order was determined by a principle that could exclude: a) the sequence of presentations with similar composition; b) the sequence of pieces with similar character; c) the sequence of pieces by the same composer. The conduct of both tests lasted 1 academic hour of 45 minutes. The learning process between the two tests took 12 academic hours (a 45 min).

The pre-tests included questions about background information, e.g. gender and age. In addition, in case of hobby education of music or school-based additional education of music the students had to specify the years of practice. The pre-test listening was anonymous, which meant that the teacher didn't provide any previous information about the musical pieces.

The post-test was conducted after an introductory learning process, during which the students were expected to determine the author and the title of the piece. Students were allowed to use their study materials in order to recognise the musical pieces or assure the correct determining of data. Following, the musical piece was evaluated by answering the question *why*. In order to check the right answers, details of the musical pieces were mentioned to the whole group after each evaluation. After the post-test was completed, students were provided a possibility to compare the evaluations and reasons of their pre- and post-test.

2.4. Music examples and related hypothesis used in the present study

1) W. A. Mozart, Piano Concerto No.21, II movement – an example of an instrumental concert that evolved in the classical period. A documentary that introduces the composer is used as an additional material in the learning process. Students' evaluations are expected to be high at first-time listening due to a high simple and exquisite melody and instrumental presentation; the evaluation does not significantly change after the learning process as limited active learning activities are used.

2) W. A. Mozart, opera „Don Giovanni“, Champagne Aria – one of the most influential operas of the era and the composer; a famous and loved aria. A documentary that introduces the composer is used as an additional material in the learning process. The learning process includes the watching of the movie *Amadeus* about the life and work of Mozart. The evaluation is expected to be low at first-time listening and the presumptive reason being the presentation of the opera aria; the evaluation should rise after the learning process, as additional materials are being used.

3) L. van Beethoven, Symphony No.9, IV movement – the genre of the symphony uses choir and soloist for the first time. Nowadays, the theme of the IV movement known as the anthem of the European Union is considered as one of the most important works of the later period of the composer and is introduced by examples of concert presentations. It is assumed that at first-time listening the evaluation is average, on the one hand, due to the presentation style of the soloists, on the other hand, due to a familiar theme, but should rise during the learning process because additional materials are being used introducing the students with the work.

4) W. A. Mozart, *Requiem*, choir “*Lacrimosa*” – one of the most important works of sacral music. A documentary and a movie that introduces the composer are used as additional material in the learning process. The work is expanded on by watching the movie *Amadeus*. It is expected that the evaluation at first-time listening is low, but ought to rise during the learning process, because treating the legend about the death of the composer leads to connections between the author and his work with the help of narrative.

5) W. A. Mozart, *Eine Kleine Nachtmusik*, I movement – an example of the use of the typical sound language of the composer, a very famous and much presented work. A documentary that introduces the

composer is used as additional material in the learning process. The evaluation at first-time listening is expected to be above average due to “joy of recognition”, simple theme, and optimistic feeling, which does not change much, as the introduction of the work does not include creating a narrative or use activating learning activities.

6) F. J. Haydn, Symphony No.94 (“Surprise”), II movement – a witty example of style of the developer of the genre of symphony and his specific sound language. A documentary that introduces the composer is used as additional material in the learning process. It is assumed that the evaluation at first-time listening is average or higher, as on the one hand, the learning process used interesting additional materials, but on the other hand the theme of the piece is not famous enough. Evaluation may rise, because after the intense listening of piano the sudden and “surprising” forte of kettledrums is mostly startling or in other ways emotional and activating.

7) L. van Beethoven Symphony No.5, I movement – a very famous example of classical music. The study process considers the piece with the help of a worksheet that interprets the nature of music. The evaluation is expected to be difficult at first-time listening, because on the one hand the piece is very famous, but on the other hand a “too” famous theme can elicit both high and low evaluations. The evaluation could rise as a result of activating learning activity;

8) W. A. Mozart, opera “Magic Flute”, Queen Of The Night Aria – an extravagant example of coloratura soprano of ultra high and great vocal ability of opera arias. A documentary and a movie that introduces the composer is used as an additional material in the learning process. The work is expanded upon watching the movie *Amadeus* that is about the life and work of Mozart. The evaluation is expected to be below at first-time because of the specific style of the presentation of a coloratura soprano, but should rise after the learning process as the learning activity creates a connection between the piece and its extraordinary presentation.

9) L. van Beethoven, Piano sonata No.14 (“Moonlight Sonata”), I movement – an example of solo sonata of the classical period and the most favourite instrument of the period, the piano. The work is expanded on watching the movie *Immortal Beloved* about the life and work of Beethoven. The evaluation at first-time listening is assumed to be average, on the one hand because it is famous and on the other hand because of its sad mood, the evaluation may rise after the learning process, as a narrative is created between the legend connected with the sickness of the composer and the character of the music.

10) W. A. Mozart Symphony No.40, I movement – an example of an extremely famous theme of classical music. A documentary that introduces the composer is used as additional material in the learning process. The piece is expanded on in the introduction of *sonata allegro*, a form of musical work that is characteristic to the era. It is assumed that the evaluation is difficult at first-time listening, because on the one hand the piece is very famous, but on the other hand a “too” famous theme could elicit both high and low evaluations; evaluation is expected to rise as a result of a form analysis that is conducted as an activating learning activity making music more understandable.

2.5. Data analysis

Quantitative and qualitative data collection methods were used in order to present versatile results about the object of study. The Wilcoxon test was used to compare the evaluations presented in the pre- and post-test. The Mann-Whitney U-Test was used to compare the evaluations of two groups of students (students with additional music education and students without additional music education).

A thematic analysis was used to analyse the collected answers of pre- and post-tests (short answer explanations of the evaluation of the piece). The aim of the analysis of the qualitative data was to break the collected information into meaningful units and to synthesise these units into meaningful themes (Bogdan & Bilken, 1992). In order to achieve the aim, all the answers to each musical piece were

organised into a compendious table and in case of each piece sub-topics were formed on the basis of the content of the answers. For example the remarks of students: *joyous, bright, merry* were categorised under the topic of emotions with a positive direction. In addition, the topic with emotions of negative direction and the topic that describes the musical piece, for example explanations about the structure of the piece, were distinguished.

3. Results

3.1. The comparison of pre- and post-test results

A Wilcoxon test (see Table 2) was employed to compare the evaluations of pre- and post-tests. The table shows that in most cases students' evaluation stayed the same on both measurements. Regarding several music pieces a change in evaluation could be noticed, for example, in case of the 4th piece a change of 40% toward a more positive evaluation took place and the evaluation of the statistical change of the piece was significant. The result was expected because a narrative was created with the death of the composer and an emotionally strong connection was promoted. Regarding most music pieces (10, 9, 8, 6, 1, 2, 3), a positive growth of change between the two measurements stayed between 20% and 30%. In addition, the change of evaluation towards positive was statistically significant in case of pieces 8, 9 and 10. This result was also expected because activating learning activities were used in the learning process. The growth of negative evaluations was strongest in case of piece no 5. 31% of the students evaluated the piece more negatively in the post-test. The changed of evaluation of the piece was statistically significant and the result was expected as there were limited activating learning activities included in the learning process. The amount of negative evaluations increased also in case of pieces 3 and 7; respectively 18% and 20% of the students changed their evaluation towards negative in case of these pieces. The latter changes were not statistically significant.

Table 2. The comparison of evaluation change of pre- and post-test on the basis of the Wilcoxon test ($n=55$)

	Music piece	Positive ranks	Negative ranks	Ties	Z	p
1.	Mozart Piano Concerto No.21 II mvt	8	13	34	-0.301	>0.05
2.	Mozart Don Giovanni Champagne Aria	9	14	32	-1.177	>0.05
3.	Beethoven Symphony No.9 IV mvt	10	17	28	-1.684	>0.05
4.	Mozart Requiem Lacrimosa	4	22	29	-3.594	<0.05
5.	Mozart Eine Kleine Nachtmusik	17	6	32	-2.294	<0.05
6.	Haydn Symphony No.94 II mvt	8	16	31	-1.347	>0.05
7.	Beethoven Symphony No.5 I mvt	11	8	36	-1.013	>0.05
8.	Mozart Magic Flute Queen Of The Night Aria	3	14	38	-2.777	<0.05
9.	Beethoven, Piano sonata No.14 I mvt	4	12	39	-2.134	<0.05
10.	Mozart Symphony No.40 I mvt	6	17	32	-2.353	<0.05

3.2. *The connection of hobby education with students' evaluations*

The background data of the pre-test revealed that 15% of the sample included students with music school education (hobby education); their answers were not separately analysed but compiled together with the answers of students with additional music education. A Mann-Whitney U-Test was used to compare the evaluations of students with additional music education and students without additional music education. The analysis of the pre-test data showed a statistically significant difference in case of the 1st music piece (Mozart Piano Concerto No.21 II mvt); the mean rank of students with additional music education was 30.54 and without additional music education was 21.81; $U = 213$, $p < 0.05$.

We also compared the results of the post-test and statistically significant differences occurred regarding four music pieces. For piece 1 (Mozart Piano Concerto No.21 II mvt), the mean rank of students with additional music education (Group A) was 31.21 and without additional education (Group B) 20.19; $U = 187$, $p < 0.05$. Similar findings were found for piece 5 (Beethoven Symphony No.9) respectively with the mean ranks of 30.97 (Group A) and 20.75 (Group B); $U = 196$, $p < 0.05$; piece 8 (Mozart Queen Of The Night Aria) with the mean ranks of 31.12 (Group A) and 20.41 (Group B); $U = 190.5$, $p < 0.05$; and piece 9 (Beethoven Piano Sonata No.14) with the mean ranks of 30.15 (Group A) and 22.75 (Group B); $U = 228$, $p < 0.05$. The evaluations of all pieces were higher among students with additional music education compared to students without additional music education. One possible explanation for such results might be that students with additional music education were more open to the methods used in the learning process and therefore there was a bigger change in their evaluations.

3.3. *The analysis of the reasons associated with evaluations*

According to music psychologists, young people prefer aspects that form the basis for emotional impulses (melody, sound and rhythm) when listening to music (Pehk, 2001). The findings of the present research show clearly the superiority of the preceding factors in the evaluation given after listening to music (e.g. beautiful and cheerful theme, voice, attractive but too sad melody, dramatic theme, not appealing voice, occasionally too fast, etc.) and confirms the theoretical standpoint of the present research that in case of music, the listener responds only to sensual quality and emotional impulses (Cook, 2005). The arguments of evaluation relating to the presentation or composition of the work of music were secondary and occurred mostly in the post-tests. The results also show that the evaluations to the pieces in minor (Mozart Requiem, Beethoven Symphony No.5, Beethoven Piano sonata No.14) reflect the listener's reluctance to the developing mood (e.g. they generate sadness, they are scary and depressing, too grim, funeral music, etc); in cases of pieces in major (Mozart Piano Concerto No.21, Mozart Eine Kleine Nachtmusik, Haydn Symphony No.94) a supporting mode can be recognized (e.g. they develop good feelings, soothing mood, cheerfulness, they make people listen, etc.). As people get contact primarily with their own feelings when listening to music (Pehk, 2001, 85), it is natural that in most cases they do not want to confront feelings that generate unpleasantness or sadness. That explains greatly the evaluations in the pre-test, which reflect the given emotional state when listening to music before the learning period. The results also indicated that the previous listening experience in case of certain pieces greatly influences the evaluations (e.g. Mozart Eine Kleine Nachtmusik, Beethoven Symphony No.5). Sloboda (2007) notes that the more familiar music gets, the more sophisticated the ability to differentiate becomes.

4. Conclusion

The aim of the present study was to investigate the evaluations of upper secondary school pupils on the ten music pieces of the classical era of music history and possible change of evaluations during the learning process. The learning process consisted of several student activating learning activities developed based on corresponding scientific literature (e.g. Brown, 2008; Cook, 2005; Johnson, 2003; Ots, 2004; Kolehmainen, 2004; Scott, 2010, 2011; Smialek & Boburka, 2006; Renter-Reintamm, 2009).

The results of the present study indicated that the evaluations of the pupils were rather high in reference to the listened music pieces and the learning process brought about several significant changes in the evaluations. The analysis of reasons associated with the given evaluations indicated that the greatest positive change took place among pieces that were introduced by activating learning activities; for example, narrative was created about the listened piece and the author or innovative viewpoints were offered for the evaluation of a familiar piece. The study showed that active learning methods can improve students' music listening skills and support formulating a more positive attitude toward classical music. However, 71% of the students of the present study had additional music education (incl. choral singing, music hobby classes, instrument study). It is possible that the results may have been influenced by students' increased interest towards music. Further research could consider the influence of the learning method on the evaluations of the pieces among students with different musical interest.

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